

[54] **VESSEL IMPLANTABLE APPLIANCE AND METHOD OF IMPLANTING IT**

[76] Inventors: **Ralph J. Alfidi**, 742 Coy Ln., Chagrin Falls, Ohio 44022; **William B. Cross**, 746 Ecton Rd., Akron, Ohio 44303

[22] Filed: **June 5, 1972**

[21] Appl. No.: **259,463**

[52] U.S. Cl. **128/345, 128/1 R**

[51] Int. Cl. **A61m 29/00, A61b 17/00**

[58] Field of Search..... **128/1 R, 325, 341, 345, 128/303.1**

[56] **References Cited**

UNITED STATES PATENTS

2,499,761	3/1950	Kraemer	128/341
2,827,054	3/1958	Towne	128/341
3,334,629	8/1967	Cohn	128/325
3,409,016	11/1968	Foley	128/325
3,540,431	11/1970	Mobin-Uddin.....	128/1 R

Primary Examiner—Channing L. Pace

Attorney, Agent, or Firm—Watts, Hoffmann, Fisher & Heinke

[57] **ABSTRACT**

An expansible appliance and methods of making and

implanting it in a vessel of an animal. The expansible appliance comprises a nickel-titanium alloy which is initially formed in an expanded configuration and is then deformed to a straight-line configuration for implantation. Once placed in a desired position, the device is heated causing it to resume its expanded configuration. In one embodiment the appliance in its expanded configuration comprises a coil of wire used to expand or enlarge a vessel. In another embodiment the expansible appliance comprises a bundle of centrally connected wires which, in the expanded configuration, form a strainer or screen to trap blood clots in a blood vessel.

The expansible appliance is implanted within the vessel through a catheter by means of a novel and specialized detachable positioning device. The positioning device is provided with electrical conductors to supply electrical energy for heating the expansible appliance after it has been implanted. A control is provided for selectively regulating the electrical energy used to heat the expansible appliance. After the expansible appliance has been implanted and expanded, the positioning device is detached and withdrawn leaving the expansible device implanted in the vessel.

38 Claims, 20 Drawing Figures

